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SEGREGATION CELLS FOR INSECT PUPAE

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In insect life-history studies it is usually desirable to obtain accurate data on the developmental period for each stage of each individual in a series. The simplest rearing technique involves the establishment in a common container of all the larvae hatching from a given lot of eggs during a 24-hour period. This in turn requires the segregation of pupae as they appear in order to maintain the individual records.

In a large series undergoing development, much time is needed for removing each pupa and establishing it in a separate, adequately labeled container. Moreover, the requirements for space to accomodate this increased number of containers may be a disadvantage, and the subsequent periodic examinations sometimes create more work than can be attended to.

The junior writer's past experience with the Van Tieghem cells used in mycological studies suggested the modification described below for use in work with the dried fruit beetle, Carpophilus hemipterus L.

For rearing this species, glass Petri dishes, each supplied with a 2-inch square of blotting paper to which is appressed a thin slice of decaying dried peach, serve as containers for all stages. The segregation cells for the pupae consist of cross-sections of No. 2 corks, each cork providing 2 sections. A hole 2 to 3 mm. in diameter is bored through each section to form a thin-walled cork tube, the base of which is plugged with cotton. As each larva in a lot pupates, a cell is glued with mucilage to the inside bottom of the dish, near the periphery, and the pupa is transferred to the cotton in the bottom. All of the pupae that emerge in each dish may be separated thus, yet maintained in a single container readily accessible for later observation. With suitable distinguishing marks in india ink on the cells and with corresponding marks in the detailed record sheets, the complete story for each individual from egg to adult from any lot of eggs is obtainable in one dish, avoiding the increased space requirement and expenditure of effort accompanying segregation of pupae into individual containers.

In a representative lot of 188 pupae handled as above, 181, or 96.28 percent, emerged as adults.



